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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,370	08/23/2004	Markus Scherer	255880US0PCT	7127
22850	7590	09/14/2007		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER BERNSHTEYN, MICHAEL	
			ART UNIT	PAPER NUMBER
			1713	
			NOTIFICATION DATE	DELIVERY MODE
			09/14/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/505,370

Applicant(s)

SCHERER ET AL.

Examiner

Michael Bernshteyn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-8, 11-15 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-8, 11-15 and 21-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/12/2007</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This Office Action follows a response filed on June 18, 2007. Claims 11 and 14 have been amended; claims 1, 9 and 10 have been cancelled; claims 21-30 have been added.
2. In view of the amendment(s) and remarks, the rejection of claims 1-20 under 35 U.S.C. §102(b) as being anticipated by Schaubert (EP 0 682 046 A1), the rejection of claims 1-20 under 35 U.S.C. §102(b) as being anticipated by Neunier et al. (U. S. Patent Application 4,758,365), the rejection of claims 1-20 under 35 U.S.C. §102(b) as being anticipated by Esso Co. (GB 906,412), and the rejection of claims 1-20 under 35 U.S.C. §102(b) as being anticipated by Liesen et al. (EP 1 086 964 A2) have been withdrawn.
3. After further consideration, the restriction requirement has been withdrawn.
4. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.
5. Claims 2-8, 11-15 and 21-30 are active.

### ***Claim Rejections - 35 USC § 103***

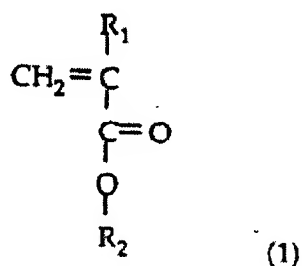
6. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.
7. Claims 2-8, 11-15 and 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaubert (EP 0682 046 A1) in view of Mueller et al. (U. S. Patent 5,098,550).

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Schauber discloses a copolymer comprising (meth) acrylate monomers and styrenic monomer(s) in an oil soluble diluent to form a solution of the copolymer in the oil soluble diluent, and wherein the solution includes less than or equal to 1000 parts by weight residual styrene monomer(s) per one million parts by weight solution (abstract).

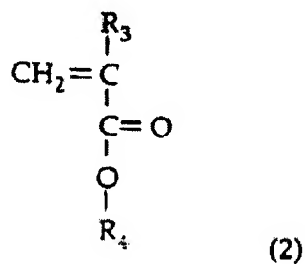
With regard to the limitations of instant claims 2-6, 8 and 11, Schauber discloses the monomer mixture comprising (col. 1, line 45 through col. 3, line 3):

from about 5 parts by weight (pbw) to about 70 pbw of one or more (meth) acrylate monomer having the structural formula (1):



wherein: each  $R_1$  is independently H or  $CH_3$ ; and each  $R_2$  is independently selected from ( $C_{18}$ - $C_{24}$ ) alkyl;

from about 5 pbw to about 85 pbw of one or more(meth) acrylate monomer having the structural formula (2):



wherein: each  $R_1$  is independently H or  $CH_3$ ; and each  $R_2$  is independently selected from ( $C_7$ - $C_{15}$ ) alkyl; and

from about 5 pbw to about 50 pbw of one or more styrenic monomer; and

b). polymerizing from about 2 pbw to about 20 pbw, for example from about 2 pbw to about 10 pbw, additional (meth)acrylate monomer(s) per 100 pbw of the combined (meth)acrylate monomers of formulae (1) and (2) of the monomer mixture, said additional (meth)acrylate monomer(s) comprising one or more (meth)acrylate monomer of formula (1), one or more (meth)acrylate monomer of formula (2), or a mixture thereof, in the presence of the polymerization intermediate, provided that the combined monomers of the monomer mixture and additional monomer(s) comprise from about 5 wt% to about 70 wt% of the (meth)acrylate monomer(s) of formula (1), from about 5 wt% to about 85 wt% of the (meth)acrylate monomer(s) of formula (2) and from about 5 wt% to about 50 wt% of the styrenic monomer(s), to provide a solution of from about 30 weight percent to about 90 weight percent of a viscosity index improving copolymer in the dilu-

ent, said solution including less than or equal to 1000 pbw residual styrene monomer(s) per 1,000,000 pbw solution.

Both formulas (1) and (2) are substantially identical to the claimed formulas A and B.

With regard to the limitations of instant claim 11, Schaubert does not disclose that a dewaxing additive comprises a customary dewaxing additive.

With regard to the limitations of instant claims 7 and 11, Mueller discloses a method for the solvent dewaxing of wax-containing petroleum products wherein the dewaxing aid used being a mixture of two polymers:

I) a polymer of esters of acrylic acid with  $C_{10}$ - $C_{40}$  alkanols and

II) a polymer of esters of methacrylic acid with alkanols comprising more than 10 weight percent of branched alkanols,

the weight ratio between components (I) and (II) ranging from 1:20 to 20:1, which is within the claimed range (abstract).

Both references are analogous art because they are from the same field of endeavor concerning new polymer dewaxing additives.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate two polymer dewaxing additives with the adjusted rate as taught by Mueller in Schauber's polymer dewaxing composition because the results obtained with mixtures of the polymers P1 and P2 show that the use of **polyalkyl methacrylate** components with moderately high degrees of branching of the alkyl groups results in significantly greater effectiveness and more pronounced synergistic effects (US'550, col. 4, lines 39-45), and thus to arrive at the subject matter of instant claim 11 and dependent claim 7.

With regard to the limitations of instant claims 12 and 13, Schauber discloses that the polymer solution is useful as an additive composition for improving the viscosity of lubricating oil. The copolymer may be added in the form of the above-disclosed additive composition, to a lubricating oil base stock, e.g. a paraffinic solvent neutral oil, to provide a lubricating oil composition having the desired viscometric properties. Suitable lubricating oil base stocks include paraffinic and naphthenic neutral oils.

With regard to the limitations of instant claims 14, 23-27, 29 and 30, Schaubert does not disclose a method for solvent deparaffinization of paraffinic mineral oil distillates.

With regard to the limitations of instant claims 14, 23-27, 29 and 30, Mueller discloses a method for the solvent dewaxing of petroleum products containing wax, particularly of **petroleum oil distillates**, by the use of **at least one solvent** suitable for dewaxing and of a polymeric dewaxing aid comprising a polyacrylate, the products to be dewaxed being mixed with the solvent and the polymeric dewaxing aid, the mixture obtained being chilled, and the precipitated wax being separated, which method is characterized in that the dewaxing aid used is a polymer mixture.

With regard to the petroleum stocks, which are amenable to dewaxing, the method does not appear to have any definite limitations. From a practical point of view, however, it is particularly well suited for waxy distillate oils, especially those with a boiling range from about 300°C to about 600°C, a density of about 0.08 to 0.09 g/cc at 15°C, a viscosity of about 10 to 20 cSt/100°C, a pour point of about 30°C to 50°C, and a dry wax content of about 10 to about 25 weight percent. Most desirable are distillate oil fractions, which include lubricating oils and specialty oils boiling within the range of 300°C to 600°C, and preferably those with a mid-boiling point of about 400°C to 450°C (col. 2, line 19 through col. 4, line 55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ Mueller's method for the solvent dewaxing of petroleum products containing wax, particularly of petroleum oil distillates, with

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Schauber's polymer dewaxing composition because the usage of such composition improves viscosity index and pour point lowering for lubricating oil composition (EP'046, col. 7, lines 38-45), and thus to arrive at the subject matter of instant claim 14 and dependent claims 23, 27-29 and 30.

With regard to the limitations of instant claims 15, Schauber discloses that such lubricating oil composition comprises from about 2 pbw to about 20 pbw of the copolymer (on the basis of polymer solid) per 100 pbw lubricating oil base stocks, which is within the claimed range (col.7, lines 31-56).

With regard to the limitations of instant claims 21, 22 and 28, Schauber discloses that the terminology "(meth)acrylate" is used to generally refer to acrylate esters, methacrylate esters, and mixtures thereof. Commercially available alkyl(meth)acrylate monomers typically are mixture of esters. As used herein, (C<sub>18</sub>-C<sub>24</sub>) alkyl means any straight or branched alkyl group having 16 to 24 carbon atoms per group, e.g., stearyl, cetyl, heptadecyl, nonadecyl, eicosyl (col. 3, lines 19-33).

It is well known, that the claimed behenyl acrylate is C<sub>20</sub> alkyl, thus it is within the scope of the above mentioned group of (C<sub>18</sub>-C<sub>24</sub>) alkyl(meth)acrylate monomers.

Schauber also discloses that in a preferred embodiment, the styrenic monomer is styrene (col. 4, lines 20-21)

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn  
Patent Examiner  
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08/30/2007

  
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